TÜV SÜD standard

Industrie Service

Certification of trading of energy from renewable sources

including green hydrogen and of the offsetting of greenhouse gas emissions of the supply of electricity and natural gas

(Abbreviated as: Trading EE)

Version 05/2018

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Content

1. Scope

This standard serves as the basis for the certification of trading systems of renewable energy, green hydrogen and supplies of natural gas and electricity with GHG offsetting. Certification according to Trading EE (also referred to as GreenBook certification) guarantees consumers that the organisation has established a reliable and traceable accounting system which ensures full accounting of energy and greenhouse gases purchased and supplied, taking various qualities into account. Given this, establishment and use of this standard contribute to transparency on the energy market.

This standard lays down the process-related requirements that are necessary for the implementation and maintenance of accounting systems. It also defines the requirements for the data to be included in accounting.

Certifications carried out on the basis of this standard are pure system certifications; energy supplies or other energy products by the certificate-holder cannot be declared certified based on Trading EE certification.

2. Scope of certification

This standard defines the requirements applying to documentation of trading with renewable energy.

The standard targets:

- Energy traders
- Energy suppliers
- Marketplaces for energy trading (e.g. stock exchanges or clearing offices)

The standard covers trading with electricity from renewable energy, biomethane, as well asnatural gas and green hydrogen with carbon offsetting.

The standard can be applied globally.

3. Normative references

a. Directive 2009/28/EC of the European Parliament and the Council of 23 April 2009 on the promotion of the use of energy from renewable sources (Renewable Energy Directive) and/or the successor framework Directive applicable from 2021;

b. Directive on Emission Allowance Trading 2003/87/EC

c. Germany's Act on the Revision of the Renewable Energy Sources Legislation in the Field of Electricity in the Federal Republic of Germany (EEG), as amended.

d. Germany's Ordinance on the Generation of Electricity from Biomass (Biomass Ordinance) as amended;

e. Germany's Ordinance on Gas Network Access (Gas Network Access Ordinance) as amended;

f. International Standard on Assurance Engagements (ISAE) 3000: Assurance Engagements Other than Audits or Reviews of Historical Financial Information

g. ISO 19011:2011: Guidelines for quality and/or environmental management system auditing

h. ISO/IEC 17065:2012 Conformity assessment – Requirements for bodies certifying products, processes and services.

i. ISO 14067:2013: Greenhouse gases -- Carbon footprint of products -- Requirements and guidelines for quantification and communication

j. Greenhouse Gas Protocol, Product Life Cycle Accounting and Reporting Standard, September 2011

k. British Standards Institution et al. PAS 2050:2011: Specification for the assessment of life cycle greenhouse gas emissions of goods and services

4. Terms and definitions

4.1. Renewable energy

Energy carriers defined as renewable energy in the currently applicable legislation: Hydropower including wave, tidal, salinity gradient and marine current energy; wind energy; solar radiation energy; geothermal energy; energy from biomass including biogas, biomethane, landfill gas and sewage treatment gas, and from the biologically degradable parts of waste from households and industry.[1]

4.2 Biomass

Energy carrier in accordance with the German Biomass Ordinance as amended at the time of certification.

4.3. Biogas

Gas defined as biogas in the currently applicable legislation:
Gas from biomass, landfill gas, sewage gas and mine gas as well as hydrogen derived from the electrolysis of water and synthetically produced methane, if the major part of the electricity used for electrolysis and the major part of the carbon dioxide or carbon monoxide used for methanisation are established as coming from renewable sources as defined in Directive 2009/28/EC.[2]

4.4 Biomethane

Biogas upgraded to natural-gas quality and injected into the natural gas grid.

4.5 Green hydrogen

Green hydrogen is hydrogen produced and certified according to TÜV SÜD's GreenHydrogen standard.

4.6 Greenhouse gases

See “Glossary” of the Greenhouse Gas Protocol

4.7 Greenhouse-gas offsetting

Greenhouse-gas or carbon offsetting means that the greenhouse-gas emissions caused by the product or subject-matter of certification will be offset by certificates from climate-change projects with verifiable greenhouse-gas emission reductions (certified emission reductions, CERs).

4.8 Simultaneity for electricity

Electricity from renewable energy is generated simultaneously with the supplied load profile and fed into the grid. The recipient and generators must be in the same interconnected grid. Compliance with the principle of simultaneity must be ensured throughout.

As a matter of principle, the shortest possible time unit must be selected, depending on the standard time unit of the national energy industry in the country of generation. If no data is available for the shortest time unit or the shortest time unit is not suitable for trading, compliance with the load profiles must be ensured at a minimum of hourly intervals. By way of exception, simultaneity is still considered fulfilled if power consumption exceeds the power supply in no more than three periods of a maximum total duration of 18 hours per year. Unforeseeable events which are out of the certificate holder’s control (force majeure)[3], are excluded from the requirement to comply with the principle of simultaneity.

4.9 Physical delivery of electricity and biomethane

Physical delivery of electricity or biomethane means that the quantity of energy in balancing groups for electricity from renewable energy or for biogas is accounted and/or billed according to the national regulations.

5. Term and validity

This standard *(Version 05/2018)* will come into effect on 01/05/2018.

Following the introduction of a revised standard, certificate-holders are granted a transition period of 12 months or to the next re-certification audit (whichever period is the longer), during which they can align their certified system to the requirements of the revised standard. The re-certification audit following the expiry of this period will then be based on the revised standard. Given this, the basis of certification will remain the same throughout the 3-year certification cycle. However, certificate-holders can choose to transition to the revised standard before expiry of the certification cycle.

[1] Renewable Energy Sources Act
[2] Energy Industry Act

[3] E.g. within this certification, rare flooding (HQ_{10}) is considered an unforeseeable event.

Justified exceptions to this rule may be accepted by the Certification Body for "Climate and Energy" of TÜV SÜD.

6. Principles

6.1. Accuracy

The requirements imposed on the measuring system and the degree of compliance with these requirements are documented in the company's quality management system (choice and locations of measuring instruments, regular inspection, e.g. calibration, etc.). The quality management system also covers plausibility checks and actions to be taken to address non-conformities. Where necessary data are missing and the exact determination of such data would involve unreasonably high efforts, conservative estimates of these missing data shall be used.

6.2. Materiality

The materiality of data is defined as follows: information is significant if the omission or incorrect statement or reporting of said information could lead to a different result of the evaluation. In light of the above, this standard defines the significance level at 5% of the quantity of energy sold or purchased.

6.3. Confidence level

Certification is based on a decision made with limited assurance as defined in the ISAE 3000 standard.

6.4. Conservativity

Conservative assumptions are made to prevent underestimation of the quantity of renewable energy or the number of CERs needed with reasonable assurance

7. General requirements for the certificate-holder's organisation

7.1. Certification scope

Certificate-holders must document the scope of certification in writing and submit it to the certification body. To change the scope of certification, a new application must be submitted to the certification body. Based on significance and confidence level, the certification body then decides whether, and if so to what extent, a new on-site audit will be necessary in this case.

The scope of certification is restricted to the following forms of energy: electricity, natural gas and hydrogen.

The scope of certification is restricted to clearly definable trading products and energy supplies of electricity from renewable energy, biomethane, green hydrogen and electricity or natural gas including greenhouse-gas offsetting.

7.1.1 Products

All trading products and services included within the scope of certification must be specified. Whether trading with these products is based solely on certificates or associated with physical delivery must be specified.

7.1.2 Certification statements

The statements that the organisation wishes to communicate in the context of certification must be specified.

7.1.3 Organisation

All subsidiaries, premises, production units, other related companies or external service providers involved in the implementation of the standard must be identified, documented and involved in the certification process. This applies in particular to:

- Purchase of energy and/or guarantees of origin (GoOs)/CERs
- Accounting
- Account management
- Data recording
- Retail / sales
- Cancellation of GoOs/CERs

Documentation of the certification scope must include the following information as a minimum requirement:

- Name(s) of the company/companies included in the scope
- Functions
- Role within the scope of implementation of the standard
- Roles and responsibilities

7.1.4 Accounting region

The boundaries of the accounting region must be defined

EXAMPLES Natural-gas grid – Germany, natural-gas grid – Germany + Denmark, railway electricity grid – Germany

7.2. Audit Representative

The certificate holder has appointed an Audit Representative, who will submit all information needed for certification and will be responsible for communicating the certification requirements within the company.

7.3. Contractual integration of third parties

The certificate-holder has concluded contractual agreements governing this standard with the companies included in the scope of the certificate. The contractual agreements include an obligation to implement, and ensure compliance with, this standard and the written consent to provide the personnel of the certification body with access to all necessary premises and ensure provision of the necessary documents and information. .

8. Verification systems for energy from renewable sources

8.1 General requirements

The characteristics of the renewable energy must be documented by means of recognised verification systems or checked within the scope of certification.

8.1.1 Verification systems for electricity from renewable sources of energy

The characteristics of the traded renewable electricity are documented in the legally recognised register of guarantees of origin as defined in EU Directive 2009/28 in each case.

In the case of trading of electricity including simultaneous supply, proof of the supplier's certification according to the TÜV SÜD Generation EE+ standard must be furnished. Simultaneity or certification of simultaneity must be proved along the entire upstream supply chain. Alternatively, case-by-case testing of the pool of power plants/installations may be carried out prior to trading.

8.1.2 Verification systems for biomethane or synthesised methane

Availability of statements from the biogas register[4], other proof of the sustainability of biomethane[5] or other evidence are available which furnish proof of verification of the relevant characteristics by a verifier or recognised certification body. Compliance with the principle of dual control (four-eyes principle) is taken for granted.

8.1.3 Verification system for green hydrogen

The supplier of green hydrogen must be certified according to either the TÜV SÜD standard Green-Hydrogen or the TÜV SÜD standard Trading EE for trading with green hydrogen.

9. Accounting system and positive balance of purchasing and sale

9.1 Accounting system

The certificate-holder has a reliable and traceable accounting system for the purchase and sale of energy from renewable sources, which enables the various qualities and/or promised product characteristics to be clearly differentiated. The maximum accounting period is 12 months, which need not correspond to the calendar year.

The certificate-holder maintains a reliable procedure for ongoing monitoring and for ensuring a positive balance of the quantities purchased, stored and supplied for evidence of energy from renewable sources or covered by GHG offsetting.

The purchase and delivery contracts are allocated to the trading business and systematically retained. The amounts delivered to purchasers are clearly labelled and confirmed by both parties.

The certificate-holder has established risk management to minimise the risk of a negative balance of the renewable energy. Risk management must be documented in writing and reflect the situation on the market.

Registries shall be used for the individual certificate systems where available.

[4] In Germany: dena biogas register

[5] In Germany: nabisy register

9.2. Optional: Accounting in balancing groups

If the certificate-holder claims physical delivery, the energy amounts purchased and delivered must be accounted in balancing groups or sub-groups for renewable energy. In this context up to 10 % of the energy delivered as renewable energy is permitted to come from higher-level balancing groups as offsetting energy.

10. Certification of greenhouse-gas offsetting

Greenhouse-gas accounting of energy supplies must satisfy LCA requirements (ISO 14040 and ISO 14044). The LCA requirements can be considered fulfilled if accounting was performed according to GHG Protocol, ISO 14067 or PAS 2050.

Certified emission reductions (CERs) from recognised climate-change projects in the field of renewable energy must be used to compensate for accounted GHG emissions. The CERs used for offsetting have a validity of up to 10 years following the calendar year of emission reduction. The CERs used to compensate for the emissions must be retired in the respective registry. Climate-change projects are always considered recognised if certified in the CDM, JI, Gold Standard or VCS schemes. However, according to Article 11 a (1 - 5) ETSD , the following certificates are not recognised:

- CERs and ERUs from HFC-23 and adipic acid projects, and
- ERUs generated after 30 April 2013 which refer to emission reductions from 2008-2012 and originate from JI projects with activities that have been newly added to the EU-ETS in 2013, and
- ERUs generated from 1 January 2013 which refer to emission reductions from 2008-2012 and were generated by a country that did not enter into any Kyoto obligations from 2013-2020 if, further, the project was not verified by an Accredited Independent Entity (AIE) according to the track-1 method.

Beyond the restrictions outlined above, CERs and ERUs of the 2nd Kyoto commitment period from 2013 to 2020 can be recognised if the CERs or ERUs originate from projects that had been registered before 1 January 2013 or projects in Least Developed Countries (LDC) registered from 2013 onwards.[6]

The purpose of CER or ERU retirement must refer as clearly as possible to the certificate holder, the product, the final customer and the associated accounting period. Where this is not ensured, the certificate-holder must maintain an accounting system for CER and ERU retirement which rules out without any doubt that retired certificates are used twice.

11. Certificate, double counting

If purchasing or supply are not effected physically but in the form of certificates, verification must be provided that:

- within the scope of electricity trading, this has been considered appropriately in the determination of qualified electricity disclosure (QED) or electricity information in line with national requirements;
- within the scope of biomethane trading, this fact is reported to the respective individual responsible for the balancing group without delay and appropriately considered with respect to the quantities included in the balancing group. Treated biogas fed into the grid with environmental benefits which have been passed on in the form of certificates shall subsequently be treated in the same way as fossil natural gas.
- In hydrogen trading, the certificate-holder of green hydrogen confirms in writing that the relevant amount of physically delivered hydrogen will no longer be marketed with the characteristic “certified according to the GreenHydrogen standard” or as green hydrogen.

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[6] The current versions of the positive and negative lists of international projects published by the EU Commission shall also be taken into account.

Annex: Changes compared to the previous version

- Standard complemented by adding electricity, green hydrogen and natural gas with greenhouse-gas offsetting
- Further terms and definitions as a result of the above addition, plus simultaneity and physical delivery
- Inclusion of the principles of accuracy, significance, confidence level and conservativity
- Standard complemented by adding general requirements for the certificate-holder's organisation
- Restriction of certification to “limited assurance”
- Editorial changes